

Selected Notes

US/China Renewable Energy Forum

April 19-20, 2000

Hyatt Arlington Hotel

1. Luncheon Speech by Robert Kapp, President, U.S.-China Business Council, April 19, 2000

- The U.S. public policy process is very public, but not very orderly. Different constituents can make their positions known, trying to persuade others to take their views.
- The debate about the permanent normal trade relationship (PNTR) with China is a follow-up of the trade agreement between the two countries reached in November 1999 for China's entry into the WTO.
- U.S. businesses support China's entry into WTO. WTO is a great historical step forward in the long process of China becoming a part of world trading system. China on its own decision will become part of the process. WTO will have a positive influence on China's trade behaviors, but it will take time.
- WTO will lower tariffs on many traded commodities. It will also impact services (the third industry) such as distribution and after-sale service network. It will have impacts on state-owned enterprises and will cause dislocation of workers.
- In negotiations among countries, it is one matter in trying to put the same contractual language in the two different languages on equal terms. It is another matter to have a good understanding of the two structures of relationships. There is often an imperfect understanding of the relationships, the network of personal ties and interrelations. There are often differences between the language of the law and the actualities.
- Renewable energy is a miniature, a microcosm, a small-scale representation of the larger challenges, in normalizing trading relationships between the two countries.
- Some types of renewable energy will be applicable to some regions of China. Some will not be. This is the essence of "Yin Di Zhi Yi" (act or set programs according to specific local conditions). In other words, both national and local systems are needed.

2. Questions and Answers from the Sessions on "Chinese Government Policy for Renewable Energy" and "International Support for China's Renewable Energy Program." April 19, 2000, p. m.

Q: Building-integrated PV systems have great potential for energy and cost savings. Why are they not being broadly pursued in China?

A: As a developing country, the emphasis in using PV systems is for remote, isolated areas, not grid-connected systems. Cost effectiveness could be an issue with respect to building-integrated PV systems.

Q: Will building-integrated PV systems be linked to the high-rise buildings in the urban environment?

A: It is likely that research and development on the technology will be conducted first to facilitate introducing it into the urban built environment.

Q: Is the 260 MW of installed wind capacity grid-connected?

A: Most of them are grid connected. The off-grid portion is small, only about 20-30 MW. But the number of units is large.

Q: Are the provincial power companies free to enter into power purchase agreements and set tariffs? Is the central government able to enforce power purchasing agreements? Or will other policy instruments be needed?

A: At the present, there is no consistent policy on setting electric tariffs for purchasing renewable power in China. A question is whether the higher cost of renewable power should be shared by only the customers in a system or by the society in general. One argument is that, ideally, such costs should be shared by the society in general. This issue is not settled yet. Another aspect is that increased competition will lead to lower electricity prices. So the electric industry will be reformed to become private enterprises.

Q: The thin-film PV is tough, durable and suitable for many uses. Is China considering adoption of thin-film PV technology?

A: I am not a thin-film specialist, I cannot answer the question. But I will take the question back to some one who can answer it.

3. Discussions Following the Session on “Business Roundtable: US/China Business Cooperation and Partnerships” April 19, 2000, p.m.

Each of the comments is preceded with an indication whether it was made by a participant from China or U.S.

(China): In both China and the U.S., renewable energy is still a relatively weak, developing industry. There are still many development issues. It would seem that, under these circumstances, there is great need to invest in research and development, to develop the necessary human resources. From this perspective, the focus on short-term profitability and commercialization of the technologies appears to be premature. I would suggest that more emphasis be placed on research and development, and on training and investment in human resources.

(China): Agree with the previous comment. Compared to the automobile and the refrigerator industries, which have had several decades of experience, the solar industry in China is still very young. There is a need to learn from the experience and technologies of these other industries. There is also the need to develop the human resources.

(U.S.): Are the two, R & D and commercialization, mutually exclusive?

(U.S.): Disagree with the two previous comments from the Chinese speakers. For many applications such as transportation, telecommunication, and serving remote areas, solar energy is already cost competitive. In addition, compared to electricity generated from coal, it would not have to take up a large part of the railroad capacity. Therefore, large-scale commercialization of solar and other renewable energy technologies at this time is possible and desirable.

(U.S.): Placing an emphasis on renewable energy research and development does not necessarily exclude commercialization of RE technologies. The two can go together. To achieve a sustainable renewable energy market, both R& D and commercialization are necessary. And the International Energy Agency is doing just that.

(China): This is a complaint about the policies of our own government. One incentive granted to wind turbines imported from abroad is the exemption of import duty. This places the domestically produced turbines at a comparative disadvantage.

(China): The way Americans use energy involves a lot of waste, greatly contributing to greenhouse gases and global climate change. New U.S.- China collaborations should be proposed to address this aspect.

(U.S.): Although we have heard that the Chinese government gives incentives to foreign investors, we have not actually seen any. When a new policy is announced, there are usually many implementation problems. Actual situations are often quite different from the words and language in the statutes and regulations. The local content requirements tend to work at cross purposes with other incentives. The World Trade Organization may help. Also there are instances that foreign companies may be attracted to China by some favorable treatments. But once commitments are made, the rules and procedures often change.

(China): There is a cultural difference between the Chinese and the Americans with respect to contracts. To the U.S. businessmen, once a contract is signed, it is to be implemented according to the terms and conditions specified in the contract. To the Chinese, the signing of the contracts or agreements signifies that the collaboration between the parties is just getting started. The things spelled out in the agreements are subject to further refinements and negotiations.

Q (U.S.): What are participants' perspective and experience in China with respect to the protection of intellectual property?

A (U.S.): It is a case-by-case situation. Our company tries to avoid transferring intellectual property. The German Jacob Company has successfully transferred its turbine technology to the Chinese. Some technologies such as wind resource assessment can be successful transferred. But transfer of manufacturing technology is another matter.

(U.S.): There is a biomass plant in Henan province that is quite successful. It is a 50%-50% project. It appears that transfer of technology is on a project-by-project basis.

Q (China): I see that solar thermal utilization is not included as a topic in the agenda, although it is a major technology. Why?

A (U.S.): In the U.S., we also like the technology. However, the reality is that energy price has been relatively low and it is very hard for solar thermal to compete. In the 1970's and 1980's, oil prices were projected to increase substantially to maybe \$100 per barrel. That kind of forecast did not materialize. My impression is that solar water heating is competitive if electricity price is about 8 cents per kWh.

(China): In China, the price is not a problem. So maybe it is easier to start there.

(U.S.): Certainly. It is happening in Athens, Greece. We hope that solar energy can be adopted in China, the U.S., and in many countries in the world.

4. Discussions Following the Session on "US Renewable Energy Policy and Development Programs," April 20, 2000, a.m.

(China): It's good that U.S. has several broad-based initiatives on renewable energy. They will lead to further development and implementation of renewable energy projects in the U.S. In my opinion, the government has the responsibility to promote renewable energy. In China, the government can also impose a surcharge on electricity or other energy use to fund (as was done for the Three Gorges Dam project) renewable energy projects.

(US): I agree that the government should provide a strong leadership to promote renewable energy. I would add that, in the U.S., the private sector, and NGO entities also contribute to the task of promoting renewable energy. Moreover, it is necessary to adopt market-based approach and to engage in government-private industry partnership for this purpose.

(US): The situation in the U.S. may not be as clear-cut as your comment would suggest. Only about 2% of U.S. electricity is generated by renewable energy. Renewable energy did not do well in the regulated model. Much more subsidies have gone to nuclear power over the years. Another point is that U.S. uses much more energy than Japan; it wastes a lot of energy. Government needs to play a role in reduce the waste in energy use.

(US): Net metering is not discussed so far. One big barrier is that utilities will not allow private parties to hook up renewable energy to the grid. There is a need for a strong national policy to require the utilities to buy the power generated by distributed renewable facilities.

(US): More and more self-generation at the customer sites is going to take place in the future. These include micro-turbines, fuel cells, PV, and wind. So national net metering legislation or electricity feed laws are necessary.

(US): I would suggest that the U. S. tax credits and incentives have had relatively small effect; they are too weak to stimulate significant investments in renewable energy. Programs such as the Million Solar Roofs are not progressing as rapidly as might be expected. Promoting renewable energy in federal buildings has provided some leadership, but only in a small way. There are a variety of legislative barriers to promoting renewable energy. Relative to the subsidies given to fossil energy and nuclear power, the subsidies received by renewable energy is insignificant. The Chinese government has more control of electric generation, but it is still building mainly coal-fired power plants, which takes up more rail capacity to transport coal. It appears that the Chinese government has more leverage in promoting renewable energy.

(US): In the last few years, Denmark and Germany have installed more wind generating capacity than the U.S., primarily because the governments in both countries have given more incentives to such renewable generating capacity.

(US, NGO): In considering the subsidies given to different energy industries, it is necessary to include the cumulative effects of past subsidies not just the last few years. In this respect, the subsidies received by the renewable energy industry are small compared to those received by the fossil and nuclear energy. (Some dollar values were mentioned.)

In China, provincial and municipal governments interested in renewable energy have been working with NGOs. My personal view is that the Central Government has done little.

In terms of system benefits charge (SBC) in the States, there are differences among States under electric restructuring. In New York, the amount of SBC funds under restructuring is much less than that under regulation. In Maine, the renewable portfolio standard (RPS) is set at 30%, including hydro power. By itself, 30% looks like a high number. But Maine is currently generating over 30% from hydro power. So utilities in Maine do not have to do any new solar, wind, or other renewable energy project to meet the RPS requirement.

Q (U.S.): Why does FEMP not focus on the largest federal buildings program, the HUD low-income housing program, which rejects energy efficiency and renewable energy technology such as solar PV?

A (U.S.): DOE does work with HUD. The Buildings Program works directly with HUD. It is also true that the Build America program has difficulty in persuading HUD people to do energy efficiency and renewable energy.

5. Closing Comments

Allan Hoffman, Director, Country Studies Program, USDOE

- Many new developments are occurring in renewable energy technologies in China, the U.S. and worldwide.
- The collaboration in renewable energy between China and the U.S. and the achievements thereof over the past five years are satisfying. However, more opportunities exist in China for utilizing renewable energy and for further cooperation and collaboration between our two countries.
- The challenges in furthering utilization of renewable energy are not necessarily in the cost or technical aspects, but in the financing, infrastructure, and human issues. Financing is an important issue in China, other developing countries in general, and in the U.S. as well.

Shi Dinghuan, Deputy Director General, Department of High and New Technology Development and Industrialization, Ministry of Science and Technology, PRC

- This Forum has covered not only the technical aspects of renewable energy, but also financing and other institutional aspect such as financing, education, and lessons learned.
- The Central Government plans to invest several billion dollars to develop China's northwestern regions in its 10th five-year plan, which will contain significant new renewable energy developments.
- American businesses participating in this Forum are to be appreciated for their work in the Northwest region, rural, and other remote areas in China. They have endured hardships in living conditions in their efforts to bring renewable energy technologies to help improve the life of local populace and bring about sustainable development in such regions and areas.
- Now that the US/China Energy Efficiency & Renewable Energy Technology Development & Utilization Protocol and Annex I have been extended, we will plan the Second US/China Renewable Energy Forum next year in Beijing on an even larger scale, including Clean Energy topics. We will invite US businesses, and representatives from governments, NGOs, and academics to participate.